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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,066	01/28/2004	John Calvin Mann	67010-074; H2678-SS	2413
26096 7590 02/16/2007 CARLSON, GASKEY & OLDS, P.C. 400 WEST MAPLE ROAD SUITE 350 BIRMINGHAM, MI 48009			EXAMINER SMITH, NICHOLAS A	
			ART UNIT 1742	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/16/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/766,066

Applicant(s)

MANN, JOHN CALVIN

Examiner

Nicholas A. Smith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-8 and 11-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 8, 11-13, 16-20 and 24 is/are rejected.
- 7) ☒ Claim(s) 7, 14-15 and 21-23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### **Status of Claims**

1. Claims 1-4, 6-8 and 11-19 remain for examination. Claims 20-24 are new. It is noted that Applicant has present two claims numbered 21; examination will be based upon the second presented claim 21 as claim 22, and claims thereafter renumbered as such.

### ***Claim Rejections - 35 USC § 112***

2. Claims 14-15 and 21-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The reference to plurality of ribs in the claims could either mean each of a member **104** in Figure 4 or each of a member such as **98** or **102** in Figure 4. For the purpose of examination, it will be assumed that members such as **98** or **102** in Figure 4 are claimed. Clarification of the term "ribs" on the record is necessary.

### ***Claim Objections***

3. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

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4. Misnumbered claims secondly presently 21 through 23 been renumbered 22-24.
5. Claim 6-7 and 22 are objected to because of the following informalities: Claim 6 improperly depends on cancelled claim 5. Appropriate correction is required. For the purpose of examination, it will be assumed that claim 6 is dependant on claim 1.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-4, 6, 8, 11-12 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over de Nora (US Patent 4,792,388) in view of Fuglevand et al. (US Patent 6,096,449).
8. De Nora is applied to the claims as stated in pp. 2-4 of the previous office action.
9. In regards to claim 1 amended features "comprising an uncoiled wave spring," De Nora does not specifically disclose such a feature. It is noted that **13a** of Figure 7 in De Nora appears to anticipate the claim at first glance. However, in describing Figure 7 (col. 11, lines 48-52), it is clear that it is meant as a graphical representation of Figure 3, a structure that does not meet the claimed feature.
10. Fuglevand et al. discloses an uncoiled, metallic wave spring in an electrochemical fuel cell (Fig. 2, **72**). It would have been obvious to one of ordinary skill in the art to modify De Nora's electrochemical cell resilient member with Fuglevand et

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al.'s resilient member because both member perform the same function of maintaining compression in the cell (Fuglevand et al., col. 5, lines 53-56; De Nora, abstract).

11. In regards to claim 6 amended feature of "uncoiled wave spring is metallic," see paragraph 10 above.

12. Claims 13, 16-17, 18, 20 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over de Nora (US Patent 4,792,388) in view of Molter et al. (US 2002/0022173).

13. De Nora is applied to the claims as stated in pp. 2-4 of the previous office action.

14. In regards to claim 13 amendment "an electrochemical cavity," de Nora discloses such a cavity (14 within 5, Fig. 4 and col. 9, lines 45-50).

15. In regards to claim 13 amendment "a side facing toward said electrochemical cavity and another side facing away from said electrochemical cavity and at least on spring frame opening that extends between said sides for receiving said spring and permitting fluid flow between said sides," de Nora does not specifically disclose such an element because the spring frame (De Nora, 12, Fig. 4) as one whole piece does not meet the claimed element requirements.

16. Molter et al. discloses a gasket or frame (216 or 236, Figure 2) enclosing a resilient member or a fluid volume that is physically separate from end plates (212 or 232, Figure 2). It would have been obvious to one of ordinary skill in the art to modify de Nora's electrochemical cell with Molter et al.'s frame and end plate because they both perform the function of securing a resilient device and containing fluid (Molter et al.,

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Figure 2, De Nora, Figure 4). De Nora in view of Molter et al. teaches the claimed limitations of permitting fluid flow between said sides of a frame.

17. In regards to claim 20, it is evident in Molter et al. that there is an annular channel between a resilient member (230, Figure 2) and the frame (236, Figure 2).

18. In regards to claim 24, Molter et al. teaches a separator plate that is movable as stated above in paragraph 16.

### ***Allowable Subject Matter***

19. Claims 7, 14-15 and 21-23 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

20. The following is a statement of reasons for the indication of allowable subject matter: In regards to claim 7, prior art does not teach or suggest a first and a second uncoil wave spring that are located concentrically with respect to each other and in combination with the claimed limitations. In regards to claim 14, prior art does not teach or suggest a plurality of ribs that are located within a spring frame opening and in combination with the claimed limitations. In regards to claim 21, prior art does not teach or suggest a plurality of in an annular channel in combination with the claimed limitations. In regards to claim 23, prior art does not teach or suggest an uncoiled wave spring as an annular structure in combination with the claimed limitations.

### ***Response to Arguments***

Applicant's arguments with respect to the claims have been considered and are convincing in parts (see allowable subject matter above) but are moot in other parts in

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view of the new ground(s) of rejection, see above. In regards to Applicant's argument towards the shape of an array of wave springs being circular pure speculation, Examiner maintains the position that changing from a rectangular cross-section shaped electrochemical cell to a circular cross section shaped electrochemical cell is not a patentable difference, as there are many circular cross section shaped electrochemical cells in the prior art and the array of wave spring would need to be shaped accordingly. It is further noted that Examiner agrees that uncoiled, concentric wave springs are not taught or suggested in the prior art because uncoiled, concentric wave springs would necessitate proper structural holdings to maintain the shape of uncoiled, concentric (and thus unconnected) wave springs. In regards to Applicant's argument towards there being no motivation to have resilient members on both sides of the electrochemical cell, Examiner maintains the position that there is motivations to maintain compression on both sides of the electrochemical cell as taught by de Nora (col. 13, lines 32-35 and lines 54-59).

### ***Conclusion***

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

22. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas A. Smith whose telephone number is (571)-272-8760. The examiner can normally be reached on 8:30 AM to 5:00 PM, Monday through Friday.

24. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571)-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

25. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ROY KING  
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